Conformance Test Report
for EN301 406 V1.5.1 (2003-07)
Digital Enhanced Cordless Telecommunic. (DECT); Harmonized EN for Digital Enhanced Cordless Telecommunications(DECT) covering essential requirements under article 3.2 of R&TTE Directive; Generic radio

Report No.: 60.861.9.075.02R

Client:	Vtech Telecommunications Ltd.
Product:	DECT Phone
System Under Test (SUT):	C1600 (FP)
Manufacturer	Vtech Telecommunications Ltd.
Date test item received:	2009/08/05
Date test campaign completed	2009/08/18
Date of issue:	2009/10/19
Test results:	COMPLIED

The test report include test result of conformance log layer 1.
Total number of pages of this test report: 27 pages

Approved by

Deputy Telecom Manager

TÜV SÜD Hong Kong Ltd.
TÜV SÜD Group
3/F., West Wing, Lakeside 2, 10 Science Park West Avenue, Science Park, Shatin, Hong Kong

Contents

1.1 Reason for measurements and identification of the protocol

The Test Candidate shall be tested to

DECT, General terminal attachment requirements

EN 301 406	V1.5.1 (2003-07)
EN 300 175-2, PHL	July 2003

1.1.1 Global statement of conformance

Has the applicant filled out the Client Test Preparation Information in accordance to EN301 406	**Yes**

see annex EN301 406 Statement of the applicant“

1.2 Identification and functional description of the test candidate

1.2.1 Client identification

Name	Vtech Telecommunications Ltd.
Contact person	Mr. Michael Tsu
Address	23/F, Tai Ping Industrial Centre, Block 1, 57 Ting Kok Road, Tai Po, Hong Kong
Phone No.	+852 2680 5398
Fax No.	+852 2680 1468

1.2.2 Identification of the Test Candidate:

RFPI of the FP with int. antenna	- -
RFPI of the FP with temp. ant. con.	013B8986C0
Hardware version	- -
Software version	- -
Operating voltage nom/min/max	230VAC/207VAC/253VAC
Serial No of the FP with int. antenna.	- -
Serial No of the FP with temp. ant. con.	- -

1.2.3 Functional description

The Test Candidate is a fixed part with integrated antennas of a cordless telephone system for 3.1 kHz voice-communications on **DECT-standard.** For the integrated antennas a diversity-switch is included to the equipment. This fixed part(FP)is used in combination with a portable part (PP) for connections to the analogue public switched telephone network

For the tests one sample with integrated antenna and one sample with 50 Ω-connector were available to the test lab.

1.3 Climatic Conditions

Temperature °C	Rel. Humidity %	Atmospheric Pressure
nominal value		
aimed +15°C - +35°C	aimed 20% - 75%	aimed 86 - 106 kPa

The requirements for temperature, rel. humidity and atmospheric pressure were observed and be within the specified range.

1.4 Measurement accuracy

The measurement accuracy is in accordance with EN301 406 V1.5.1 (2003-07).
Note: All values reflect a confidence level of 95 %.
The actual measurement uncertainties are described at each test.

1.5 Test equipment used

Equipment R&S DECT Type approval system TS 8930 FTAS:	Manufacturer.:	Type.:	Inventory-No.:	calibration date
Process Controller			H1882000176	
RF-Generator	R&S	SME03	H1882000179	March,05,2009
RF-Generator	R&S	SME03	H1882000187	March,05,2009
Spectrum- Analyzer	R&S		H1882000186	March,05,2009
Switch Matrix			H1882000185	
RF-Generator	R&S	SMP02	H1882000162	March,05,2009
Software			DOS-Version 3.02F from 19.02.99	
Control-PC			H1882000140	
Software T_Case_12			V 3.1 from 19.07.99	

Other test equipment			
Digital Radio tester	CTS65	13046801-001	July,13,2009
EMC Analyzer	E7405A	13059601-001	January,9,2009
Power Amplifer	ZHL-42W	13040712-002	April,03,2009
Horn Antenna	3115	13059204-001	July,13,2009
Horn Antenna	3115	13059204-002	July,13,2009
Bilog Antenna	CBL6111C	N/A	July,22,2009
Temp.& Humid. Chamber	SH240	13490520-001	March,05,2009
Anechoic Chamber	TDK	N/A	May, 27,2009

1.6 Explanation of the results abbreviations

P = pass, inside of the specification
P* = pass, inside of the specification in consideration of the test accuracy
F = failed, exceeding the specification
O = not implicated
- = not tested
? = no clear result considering to the specification
* = see note

1.7 Comments for testing

Delivery date of Test Candidate: . 2009.08.05
The tests were done from 2009.08.05 at 2009.08.18

Test Location: T01

During the tests were present:
Mr. Jeff Pong from **TÜV SÜD Hong Kong Ltd.**
Mr. Michael Tsu from **Vtech Telecommunication Ltd.**

The test set-up and tests are according toEN301 406 V1.5.1(2003-07) and **DTAAB DT.04 V10 from 11/99** and the internal test comments of the test lab.

All measurements, in exception of parts of Testcase 6 and Testcase 12, were done at the equipment with 50 Ω-temporary antenna connector.

All radiated measurements were done in the anechoic chamber
The test site and the whole test equipment is according to standards
EN301 406 V1.5.1 (2003-07).

2 IUT conformance status according to EN301 406 V1.5.1(2003-07)

2.1 IUT conformance summary

The IUT **has not been** shown by conformance assessment to be non conforming to the general terminal attachment requirements, EN301 406

2.2 EN301 406 results overview

Test case	Point	Testcase description	Remarks	Sel.	Run	Verdict
1	4.5.1	Accuracy and stability of RF carriers		Y	Y	**Pass**
2	4.5.2	Timing jitter: slot - slot on the same channel		Y	Y	**Pass**
3		Reference timing accuracy of a RFP		Y	Y	**Pass**
4		Measurement of packet timing accuracy	only for portable part	N	N	-----
5	4.5.3	Transmission burst		Y	Y	**Pass**
6	4.5.4.1.1	Transmitted power (with an internal antenna) NTP		Y	Y	**Pass**
7	4.5.4.1.2	Transmitted power (with an external antenna connector)		Y	Y	**Pass**
8	4.5.5	RF carrier modulation		Y	Y	**Pass**
9	4.5.6.2	Emissions due to modulation		Y	Y	**Pass**
10	4.5.6.3	Emissions due to transmitter transients		Y	Y	**Pass**
11	4.5.6.4	Emissions due to intermodulation	only for basestation with more than one transmitter	N	N	---
12	4.5.6.5	Spurious emissions when allocated a transmit channel	Conducted spurious	Y	Y	**Pass**
			Radiated spurious			**Pass**
13	4.5.7.1	Radio receiver sensitivity		Y	Y	**Pass**
14	4.5.7.2	Radio receiver reference bit error ratio		Y	Y	**Pass**
15	4.5.7.3	Radio receiver interference performance		Y	Y	**Pass**
16	4.5.7.4	Radio receiver blocking case 1		Y	Y	**Pass**
17	4.5.7.5	Radio receiver blocking case 2		Y	Y	**Pass**
18	4.5.7.6	Receiver intermodulation performance		Y	Y	**Pass**
19	4.5.7.7	Spurious emissions when the radio endpoint has no allocated transmit channel	only for portable part	N	N	---

EN301 406 V1.5.1(2003-07) results overview

Test case	Point	Testcase description	Remarks	Sel.	Verdict
20	4.5.8	Synchronisation port		N	**No test**
21	4.5.9	Equipment identity verification /safeguards		N	**Manufacturer declaration**
22	4.5.10	Efficient use of radio spectrum		N	**Manufacturer declaration**
23	4.5.11	WRS		N	**No test**
24	4.5.12	PP to PP communication		N	**No test**
25	4.5.13	Direct communication		N	**No test**
26	4.5.14	Higher level modulation		N	**No test**

2.3 Test campaign report

2.3.1 TC 1 Accuracy and stability of RF carriers (4.5.1)

aimed for t ≥ 1 s with Δ f ≤ ± 50 kHz under nominal and extreme conditions

	Deviation [kHz]			
	channel 0	channel 5	Channel 9	
nom. temperature and nom. Voltage	**7.63**	**7.47**	**7.57**	P
+10°C and minimum voltage	**2.19**	**2.03**	**2.12**	P
+10°C and maximum voltage	**2.22**	**1.73**	**2.13**	P
+40°C and minimum voltage	**-0.65**	**-1.08**	**-0.65**	P
+40°C and maximum voltage	**-0.69**	**-0.49**	**-0.43**	P

Measurement uncertainty: < 1%
Comment:minimum voltage =207V

2.3.2 TC 2 Timing jitter: slot- slot on the same channel (4.5.2)

Test in channel 5 aimed < ± 1 µs	Deviation [µs]		
	positive	Negative	
nom. temperature and nom. Voltage	**0.068**	**-0.067**	P
+10°C and minimum voltage	**0.056**	**-0.077**	P
+10°C and maximum voltage	**0.057**	**-0.071**	P
+40°C and minimum voltage	**0.064**	**-0.055**	P
+40°C and maximum voltage	**0.065**	**-0.058**	P

Measurement uncertainty: <= 77.4 ns
Comment:minimum voltage =207V

2.3.3 TC 3 Reference timing accuracy of a RFP

Test in channel 5	Aimed	Deviation [ppm]	
nom. temperature and nom. Voltage	< 5 ppm	**0.00**	P
+10°C and minimum voltage	< 10 ppm	**-0.88**	P
+10°C and maximum voltage	< 10 ppm	**-0.89**	P
+40°C and minimum voltage	< 10 ppm	**0.40**	P
+40°C and maximum voltage	< 10 ppm	**0.38**	P

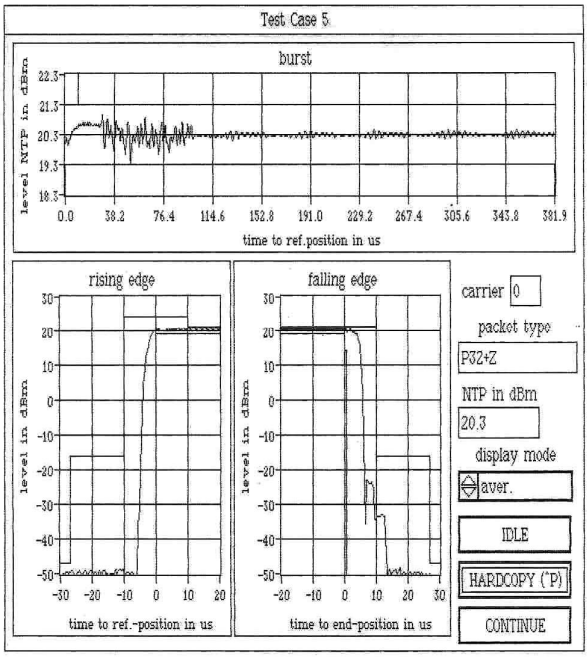
Measurement uncertainty: <= 77.4 ns
Comment:minimum voltage =207V

2.3.4 TC 4 Measurement of packet timong accuracy

only recommended for portable parts

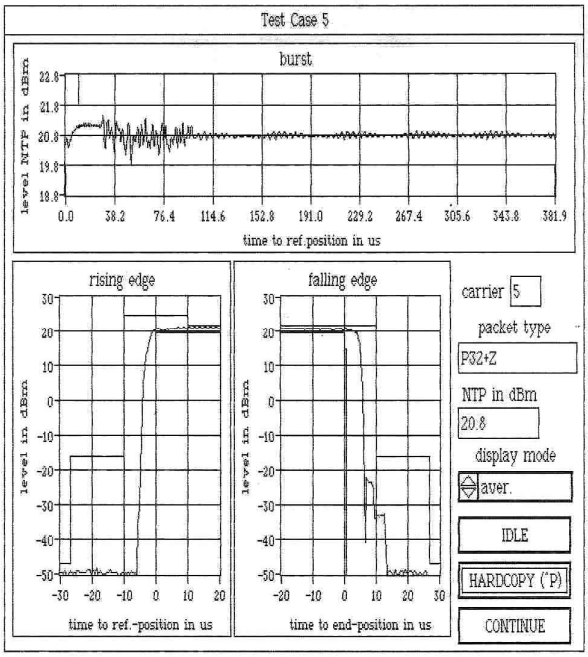
2.3.5 TC 5 Transmission Burst (4.5.3)

Measurement uncertainty: + 0.85 dB / -0.92 dB



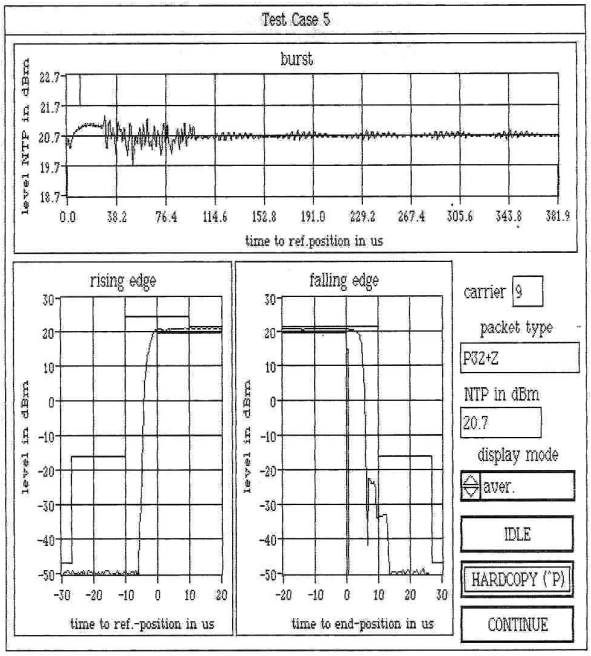
Nom. temperature and nom. Voltage

p



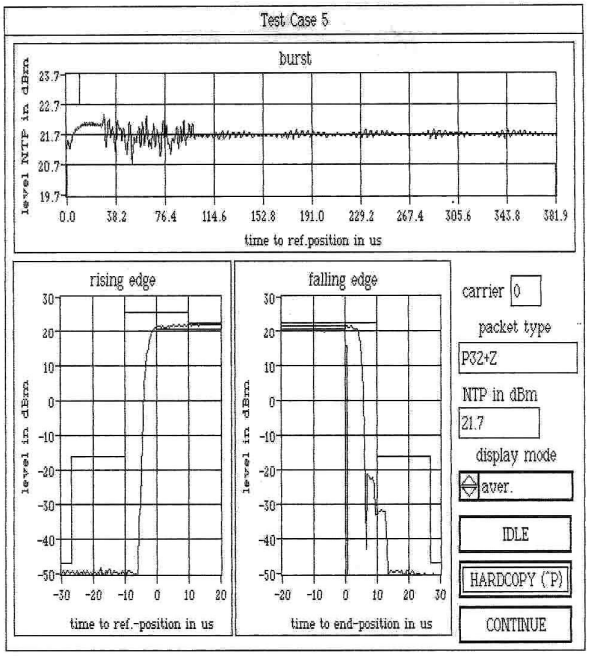
Nom. temperature and nom. voltage

P



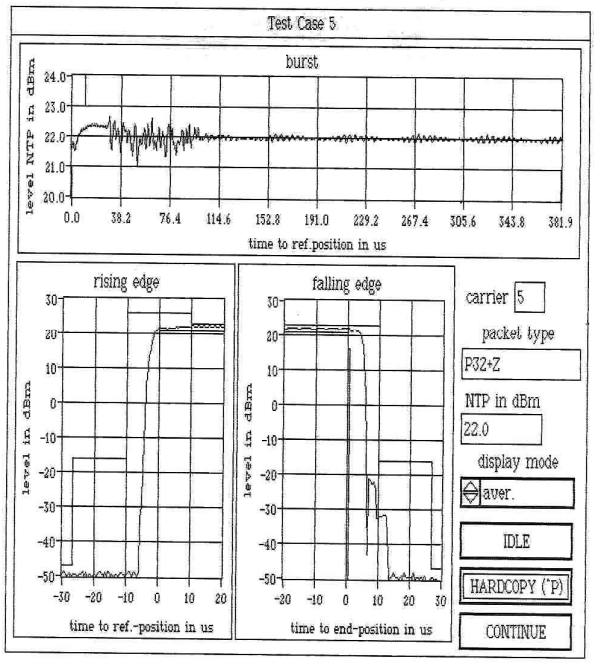
Nom. temperature and nom. voltage

P

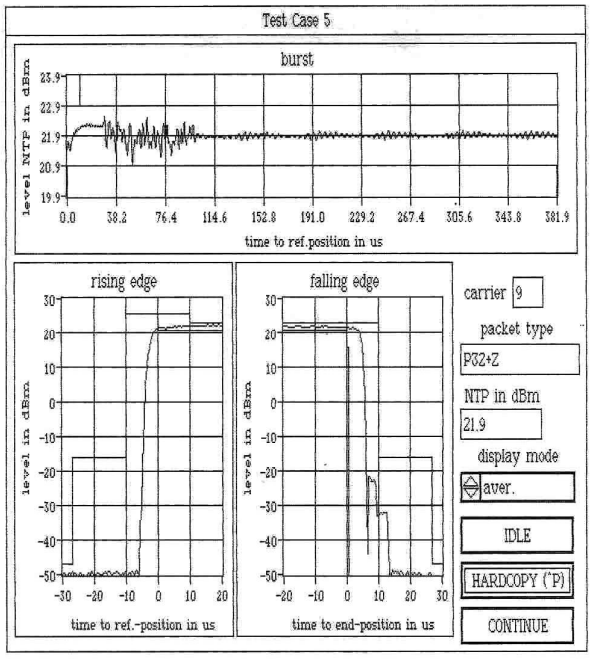


+10°C temperature and nom. Voltage

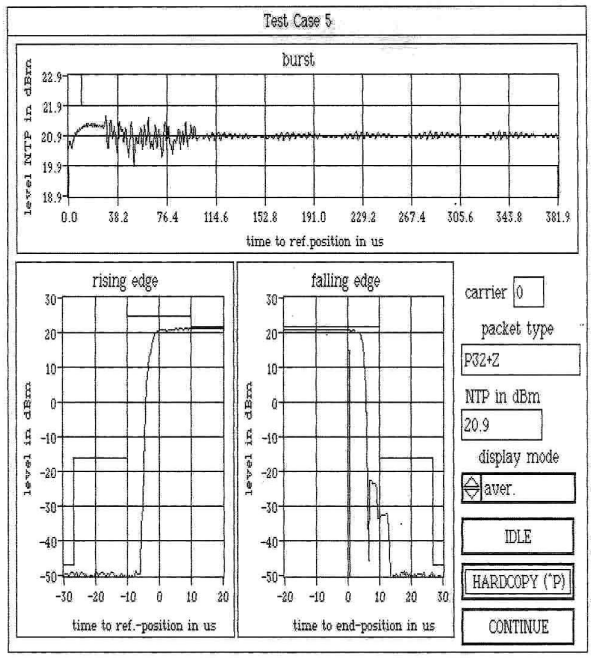
P



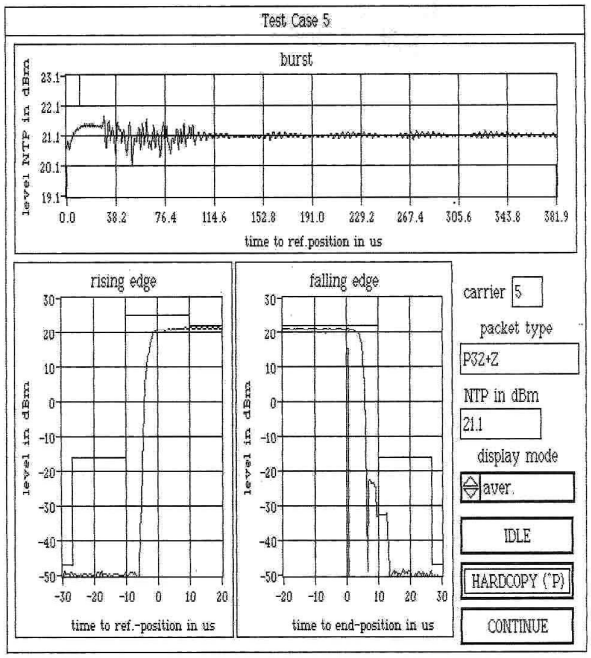
+10°C temperature and nom. voltage | P



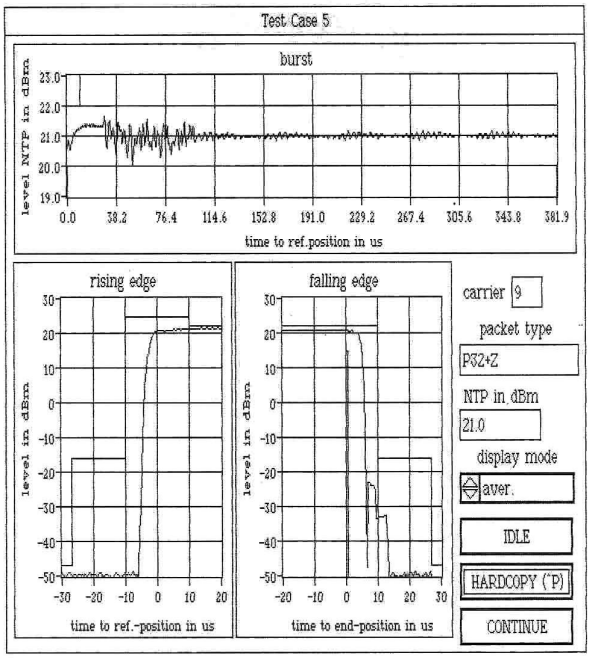
+10°C temperature and nom. voltage | P



+40°C temperature and nom. voltage | P



+40°C temperature and nom. voltage | P



+40°C temperature and nom. voltage P

2.3.6 TC 6 Transmitted power: PP and FP with internal antenna (4.5.4.1.1)

Conducted RF-output power in the Burst: aimed ≤ 250 mW (24 dBm)
Height of receive antenna actual = **1.50 m**
Radiated field strength maximum at position in degrees ant. 0 actual = **10°** hor
ant. 1 actual = **230°** ver

Antenna gain: aimed with max. 12 dB

Antenna 0	Conducitve Power	radiated Power	Antenna gain
Channel 0	20.30 dBm	19.28 dBm	-1.02 dB
Channel 5	20.80 dBm	19.08 dBm	-1.72 dB
Channel 9	20.70 dBm	18.97 dBm	-1.73 dB

P

Comment: This measurement is necessary only for internal antenna connection(s).

Measurement uncertainty radiated: + 3.53 dB / -3.53 dB
Measurement uncertainty conducted: + 0.85 dB / -0.92 dB

2.3.7 TC 7 Transmitted power: FP with an external ant. connector (4.5.4.1.2)

P

Antenna 0	Conducitve Power
Channel 0	20.30 dBm
Channel 5	20.80 dBm
Channel 9	20.70 dBm

2.3.8 TC 8 RF-carrier modulation (4.5.5)

part 1: aimed > ± 259 kHz < ± 403 kHz
part 2-3: aimed > ± 202 kHz < ± 403 kHz
part 4: aimed < ± 17 kHz/slot

Measurement uncertainty part 1-3: ± 10 kHz
part 4: ± 2 kHz

TRAFFIC SLOT: 2
TRAFFIC CARRIER: 5
PACKET TYPE: P32+Z

part1: 10 bursts evaluated		
maximum positive modulation:	350.03 kHz	P
maximum negative modulation:	-347.69 kHz	P
part2: 10 bursts evaluated		
maximum positive modulation:	371.24 kHz	P
maximum negative modulation:	-380.63 kHz	P
part3: 10 bursts evaluated		
maximum positive modulation:	304.06 kHz	P
maximum negative modulation:	-302.23 kHz	P
part4: 200 bursts evaluated		
averaged frequency drift:	-0.84 kHz/slot	P

2.3.9 TC 9 Emissions due to modulation (4.5.6.2)

Measurement uncertainty: + 0.49 dB / -0.51 dB
One exception <-33 dBm (500 nW) permissible

TRAFFIC SLOT: 6
TRAFFIC CARRIER: 0
PACKET TYPE: P32+Z
measured NTP: 20.30 dBm

		measured values	limits	
CARRIER 0:	integrated power	20.30 dBm	---	P
CARRIER 1:	integrated power	-21.75 dBm	-8 dBm	P
CARRIER 2:	integrated power	-43.04 dBm	-30 dBm	P
CARRIER 3:	integrated power	-47.11 dBm	-41 dBm	P
CARRIER 4:	integrated power	-48.42 dBm	-44 dBm	P
CARRIER 5:	integrated power	-48.89 dBm	-44 dBm	P
CARRIER 6:	integrated power	-49.70 dBm	-44 dBm	P
CARRIER 7:	integrated power	-50.11 dBm	-44 dBm	P
CARRIER 8:	integrated power	-50.31 dBm	-44 dBm	P
CARRIER 9:	integrated power	-50.81 dBm	-44 dBm	P

TRAFFIC SLOT: 8
TRAFFIC CARRIER: 5
PACKET TYPE: P32+Z
measured NTP: 20.80 dBm

		measured values	limits	
CARRIER 0:	integrated power	- 48.61 dBm	-44 dBm	P
CARRIER 1:	integrated power	- 47.96 dBm	-44 dBm	P
CARRIER 2:	integrated power	- 46.54 dBm	-41 dBm	P
CARRIER 3:	integrated power	- 43.08 dBm	-30 dBm	P
CARRIER 4:	integrated power	- 21.36 dBm	-8 dBm	P
CARRIER 5:	integrated power	20.80 dBm	---	P
CARRIER 6:	integrated power	- 23.34 dBm	-8 dBm	P
CARRIER 7:	integrated power	- 43.55 dBm	-30 dBm	P
CARRIER 8:	integrated power	- 47.06 dBm	-41 dBm	P
CARRIER 9:	integrated power	- 48.07 dBm	-44 dBm	P

TRAFFIC SLOT: 10
TRAFFIC CARRIER: 9
PACKET TYPE: P32+Z
measured NTP: 20.70 dBm

		measured values	limits	
CARRIER 0:	integrated power	- 49.98 dBm	-44 dBm	P
CARRIER 1:	integrated power	- 49.52 dBm	-44 dBm	P
CARRIER 2:	integrated power	- 49.44 dBm	-44 dBm	P
CARRIER 3:	integrated power	- 49.20 dBm	-44 dBm	P
CARRIER 4:	integrated power	- 48.51 dBm	-44 dBm	P
CARRIER 5:	integrated power	- 47.74 dBm	-44 dBm	P
CARRIER 6:	integrated power	- 46.59 dBm	-41 dBm	P
CARRIER 7:	integrated power	- 43.55 dBm	-30 dBm	P
CARRIER 8:	integrated power	- 21.55 dBm	-8 dBm	P
CARRIER 9:	integrated power	20.70 dBm	---	P

2.3.10 TC 10 Emissions due to transmitter transients (4.5.6.3)

Measurement uncertainty: + 0.49 dB / -0.51 dB

TRAFFIC SLOT: 0
TRAFFIC CARRIER: 0
PACKET TYPE: P32+Z

		measured values	limits	
CARRIER 0:	max. Power	131.49 mW (21.19 dBm)	---	p
CARRIER 1:	max. Power	53.44 uW (-12.72 dBm)	-6 dBm	p
CARRIER 2:	max. Power	93.89 nW (-40.27 dBm)	-14 dBm	p
CARRIER 3:	max. Power	28.15 nW (-45.50 dBm)	-24 dBm	p
CARRIER 4:	max. Power	97.24 nW (-40.12 dBm)	-30 dBm	p
CARRIER 5:	max. Power	19.94 nW (-47.00 dBm)	-30 dBm	p
CARRIER 6:	max. Power	18.16 nW (-47.41 dBm)	-30 dBm	p
CARRIER 7:	max. Power	11.92 nW (-49.24 dBm)	-30 dBm	p
CARRIER 8:	max. Power	81.12 nW (-40.91 dBm)	-30 dBm	p
CARRIER 9:	max. Power	10.73 nW (-49.69 dBm)	-30 dBm	p

TRAFFIC SLOT: 2
TRAFFIC CARRIER: 1
PACKET TYPE: P32+Z

		measured values	limits	
CARRIER 0:	max. Power	60.42 uW (-12.19 dBm)	-6 dBm	p
CARRIER 1:	max. Power	142.71 mW (21.54 dBm)	---	p
CARRIER 2:	max. Power	57.99 uW (-12.37 dBm)	-6 dBm	p
CARRIER 3:	max. Power	154.34 nW (-38.12 dBm)	-14 dBm	p
CARRIER 4:	max. Power	35.78 nW (-44.46 dBm)	-24 dBm	p
CARRIER 5:	max. Power	104.92 nW (-39.79 dBm)	-30 dBm	p
CARRIER 6:	max. Power	18.59 nW (-47.31 dBm)	-30 dBm	p
CARRIER 7:	max. Power	17.95 nW (-47.46 dBm)	-30 dBm	p
CARRIER 8:	max. Power	18.81 nW (-47.26 dBm)	-30 dBm	p
CARRIER 9:	max. Power	81.12 nW (-40.91 dBm)	-30 dBm	p

TRAFFIC SLOT: 4
TRAFFIC CARRIER: 2
PACKET TYPE: P32+Z

		measured values	limits	
CARRIER 0:	max. Power	101.31 nW (-39.94 dBm)	-14 dBm	p
CARRIER 1:	max. Power	59.02 uW (-12.29 dBm)	-6 dBm	p
CARRIER 2:	max. Power	141.87 mW (21.52 dBm)	---	p
CARRIER 3:	max. Power	63.31 uW (-11.99 dBm)	-6 dBm	p
CARRIER 4:	max. Power	138.11 nW (-38.60 dBm)	-14 dBm	p
CARRIER 5:	max. Power	35.36 nW (-44.51 dBm)	-24 dBm	p
CARRIER 6:	max. Power	92.80 nW (-40.32 dBm)	-30 dBm	p
CARRIER 7:	max. Power	20.29 nW (-46.93 dBm)	-30 dBm	p
CARRIER 8:	max. Power	20.06 nW (-46.98 dBm)	-30 dBm	p
CARRIER 9:	max. Power	14.97 nW (-48.25 dBm)	-30 dBm	p

TRAFFIC SLOT: 6
TRAFFIC CARRIER: 3
PACKET TYPE: P32+Z

		measured values	limits	
CARRIER 0:	max. Power	30.02 nW (-45.23 dBm)	-24 dBm	p
CARRIER 1:	max. Power	123.59 nW (-39.08 dBm)	-14 dBm	p
CARRIER 2:	max. Power	59.37 uW (-12.26 dBm)	-6 dBm	p
CARRIER 3:	max. Power	146.94 mW (21.67 dBm)	---	p
CARRIER 4:	max. Power	38.51 uW (-14.14 dBm)	-6 dBm	p
CARRIER 5:	max. Power	113.87 nW (-39.44 dBm)	-14 dBm	p
CARRIER 6:	max. Power	37.27 nW (-44.29 dBm)	-24 dBm	p
CARRIER 7:	max. Power	111.24 nW (-39.54 dBm)	-30 dBm	p

CARRIER 8:	max. Power	18.05 nW	(-47.43 dBm)	-30 dBm	p
CARRIER 9:	max. Power	18.70 nW	(-47.28 dBm)	-30 dBm	p

TRAFFIC SLOT: 8
TRAFFIC CARRIER: 4
PACKET TYPE: P32+Z

		measured values		limits	
CARRIER 0:	max. Power	88.56 nW	(-40.53 dBm)	-30 dBm	P
CARRIER 1:	max. Power	35.78 nW	(-44.46 dBm)	-24 dBm	p
CARRIER 2:	max. Power	138.92 nW	(-38.57 dBm)	-14 dBm	p
CARRIER 3:	max. Power	57.66 uW	(-12.39 dBm)	-6 dBm	p
CARRIER 4:	max. Power	147.80 mW	(21.70 dBm)	---	p
CARRIER 5:	max. Power	45.63 uW	(-13.41 dBm)	-6 dBm	p
CARRIER 6:	max. Power	121.44 nW	(-39.16 dBm)	-14 dBm	p
CARRIER 7:	max. Power	32.58 nW	(-44.87 dBm)	-24 dBm	p
CARRIER 8:	max. Power	89.08 nW	(-40.50 dBm)	-30 dBm	p
CARRIER 9:	max. Power	23.35 nW	(-46.32 dBm)	-30 dBm	p

TRAFFIC SLOT: 10
TRAFFIC CARRIER: 5
PACKET TYPE: P32+Z

		measured values		limits	
CARRIER 0:	max. Power	17.53 nW	(-47.56 dBm)	-30 dBm	p
CARRIER 1:	max. Power	74.75 nW	(-41.26 dBm)	-30 dBm	p
CARRIER 2:	max. Power	32.02 nW	(-44.95 dBm)	-24 dBm	p
CARRIER 3:	max. Power	108.67 nW	(-39.64 dBm)	-14 dBm	p
CARRIER 4:	max. Power	74.14 uW	(-11.30 dBm)	-6 dBm	p
CARRIER 5:	max. Power	146.08 mW	(21.65 dBm)	---	p
CARRIER 6:	max. Power	57.99 uW	(-12.37 dBm)	-6 dBm	p
CARRIER 7:	max. Power	101.90 nW	(-39.92 dBm)	-14 dBm	p
CARRIER 8:	max. Power	39.06 nW	(-44.08 dBm)	-24 dBm	p
CARRIER 9:	max. Power	92.80 nW	(-40.32 dBm)	-30 dBm	p

TRAFFIC SLOT: 0
TRAFFIC CARRIER: 6
PACKET TYPE: P32+Z

		measured values		limits	
CARRIER 0:	max. Power	20.06 nW	(-46.98 dBm)	-30 dBm	p
CARRIER 1:	max. Power	21.39 nW	(-46.70 dBm)	-30 dBm	p
CARRIER 2:	max. Power	71.75 nW	(-41.44 dBm)	-30 dBm	p
CARRIER 3:	max. Power	34.34 nW	(-44.64 dBm)	-24 dBm	p
CARRIER 4:	max. Power	68.87 nW	(-41.62 dBm)	-14 dBm	p
CARRIER 5:	max. Power	64.81 uW	(-11.88 dBm)	-6 dBm	p
CARRIER 6:	max. Power	142.71 mW	(21.54 dBm)	---	p
CARRIER 7:	max. Power	56.32 uW	(-12.49 dBm)	-6 dBm	p
CARRIER 8:	max. Power	134.13 nW	(-38.72 dBm)	-14 dBm	p
CARRIER 9:	max. Power	34.55 nW	(-44.62 dBm)	-24 dBm	p

TRAFFIC SLOT: 2
TRAFFIC CARRIER: 7
PACKET TYPE: P32+Z

		measured values		limits	
CARRIER 0:	max. Power	18.59 nW	(-47.31 dBm)	-30 dBm	p
CARRIER 1:	max. Power	19.48 nW	(-47.10 dBm)	-30 dBm	p
CARRIER 2:	max. Power	22.54 nW	(-46.47 dBm)	-30 dBm	p
CARRIER 3:	max. Power	89.08 nW	(-40.50 dBm)	-30 dBm	p
CARRIER 4:	max. Power	33.16 nW	(-44.79 dBm)	-24 dBm	p
CARRIER 5:	max. Power	102.50 nW	(-39.89 dBm)	-14 dBm	p
CARRIER 6:	max. Power	61.13 uW	(-12.14 dBm)	-6 dBm	p
CARRIER 7:	max. Power	149.54 mW	(21.75 dBm)	---	p

CARRIER 8:	max. Power	61.85 uW	(-12.09 dBm)	-6 dBm	p
CARRIER 9:	max. Power	91.72 nW	(-40.38 dBm)	-14 dBm	p

TRAFFIC SLOT: 4
TRAFFIC CARRIER: 8
PACKET TYPE: P32+Z

		measured values		limits	
CARRIER 0:	max. Power	79.71 nW	(-40.98 dBm)	-30 dBm	p
CARRIER 1:	max. Power	18.92 nW	(-47.23 dBm)	-30 dBm	p
CARRIER 2:	max. Power	19.71 nW	(-47.05 dBm)	-30 dBm	p
CARRIER 3:	max. Power	20.17 nW	(-46.95 dBm)	-30 dBm	p
CARRIER 4:	max. Power	76.96 nW	(-41.14 dBm)	-30 dBm	p
CARRIER 5:	max. Power	41.17 nW	(-43.85 dBm)	-24 dBm	p
CARRIER 6:	max. Power	137.30 nW	(-38.62 dBm)	-14 dBm	p
CARRIER 7:	max. Power	62.21 uW	(-12.06 dBm)	-6 dBm	p
CARRIER 8:	max. Power	146.94 mW	(21.67 dBm)	---	p
CARRIER 9:	max. Power	59.02 uW	(-12.29 dBm)	-6 dBm	p

TRAFFIC SLOT: 6
TRAFFIC CARRIER: 9
PACKET TYPE: P32+Z

		measured values		limits	
CARRIER 0:	max. Power	13.32 nW	(-48.76 dBm)	-30 dBm	p
CARRIER 1:	max. Power	76.07 nW	(-41.19 dBm)	-30 dBm	p
CARRIER 2:	max. Power	16.44 nW	(-47.84 dBm)	-30 dBm	p
CARRIER 3:	max. Power	19.82 nW	(-47.03 dBm)	-30 dBm	p
CARRIER 4:	max. Power	19.14 nW	(-47.18 dBm)	-30 dBm	p
CARRIER 5:	max. Power	78.78 nW	(-41.04 dBm)	-30 dBm	p
CARRIER 6:	max. Power	38.16 nW	(-44.18 dBm)	-24 dBm	p
CARRIER 7:	max. Power	72.59 nW	(-41.39 dBm)	-14 dBm	p
CARRIER 8:	max. Power	64.43 uW	(-11.91 dBm)	-6 dBm	p
CARRIER 9:	max. Power	154.88 mW	(21.90 dBm)	---	p

2.3.11 TC 11 Emissions due to intermodulation (4.5.6.4)

only for basestations with several transmitters

2.3.12 TC 12 Spurious emissions when allocated a transmit chann l (4e.5.6.5)

Channel 5, radiated

30 MHz - 1 GHz	aimed ≤ -36 dBm	actual ≤ -52.20 dBm	P
1 GHz - 4 GHz	aimed ≤ -30 dBm	actual ≤ -42.63 dBm	P
Peak at 3.777 GHz hor.	aimed ≤ -30 dBm	actual ≤ -37.69 dBm	P
broadcast bands according to TBR 6	aimed ≤ -47 dBm	actual ≤ -68.40 dBm	P

Measurement uncertainty f<1GHz: + 2.89 dB / -2.98 dB
f>1GHz: + 3.40 dB / -3.75 dB

Remark:second harmonic is marginal result in uncertainty range

Channel 5, conducted

TRAFFIC SLOT: 2
TRAFFIC CARRIER: 5
PACKET TYPE: P32+Z

Wideband Measurements

Range from 300kHz to 12750.00 MHz P

Measurement uncertainty f>1GHz: + 1.40 dB / -1.75 dB

2.3.13 TC 13 Radio receiver sensitivity (4.5.7.1)

At a level of -83 dBm the BER shall be ≤ 10^{-3} .
Measurement uncertainty: + 0.25 dB / -0.27 dB

TRAFFIC SLOT:	0			
TRAFFIC CARRIER:	0			
PACKET TYPE:	P32+Z			
Center frequency offset:	0 kHz			
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit	P
Center frequency offset:	50 kHz			
BER: 0.00001423	FER: 0.000000	evaluated:	351 kbit	P
Center frequency offset:	-50 kHz			
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit	P
TRAFFIC SLOT:	2			
TRAFFIC CARRIER:	5			
PACKET TYPE:	P32+Z			
Center frequency offset:	0 kHz			
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit	P
Center frequency offset:	50 kHz			
BER: 0.00001158	FER: 0.000000	evaluated:	345 kbit	P
Center frequency offset:	-50 kHz			
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit	P
TRAFFIC SLOT:	4			
TRAFFIC CARRIER:	9			
PACKET TYPE:	P32+Z			
Center frequency offset:	0 kHz			
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit	P
Center frequency offset:	50 kHz			
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit	P
Center frequency offset:	-50 kHz			
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit	P

2.3.14 TC 14 Radio receiver reference bit error ratio (4.5.7.2)

At a level of -73 dBm the BER shall be ≤ 10^{-5}, the FER shall be ≤ $5*10^{-4}$.
Measurement uncertainty: + 0.25 dB / -0.27 dB

TRAFFIC SLOT:	6			
TRAFFIC CARRIER:	0			
PACKET TYPE:	P32+Z			
BER: 0.00000000	FER: 0.000000	evaluated:	32.000 Mbit	P
TRAFFIC SLOT:	8			
TRAFFIC CARRIER:	5			
PACKET TYPE:	P32+Z			
BER: 0.00000000	FER: 0.000000	evaluated:	32.000 Mbit	P
TRAFFIC SLOT:	10			
TRAFFIC CARRIER:	9			
PACKET TYPE:	P32+Z			
BER: 0.00000000	FER: 0.000000	evaluated:	32.000 Mbit	P

2.3.15 TC 15 Radio receiver interference performance (4.5.7.3)

The BER shall be ≤ 10^{-3} .
Measurement uncertainty: + 0.32 dB / -0.34 dB

TRAFFIC SLOT: 2
TRAFFIC CARRIER: 0
PACKET TYPE: P32+Z

BER:	FER:	kBit:	intf.car:	lev in dBm:	
0.000017	0.000000	357	-3	-33.0	P
0.000034	0.000000	424	-2	-39.0	P
0.000072	0.000000	471	-1	-60.0	P
0.000769	0.000000	1594	0	-84.0	P
0.000000	0.000000	320	1	-60.0	P
0.000006	0.000000	332	2	-39.0	P
0.000003	0.000000	326	3	-33.0	P
0.000000	0.000000	320	4	-33.0	P
0.000006	0.000000	332	5	-33.0	P
0.000027	0.000000	376	6	-33.0	P
0.000009	0.000000	338	7	-33.0	P
0.000009	0.000000	338	8	-33.0	P
0.000000	0.000000	320	9	-33.0	P
0.000003	0.000000	326	10	-33.0	P
0.000000	0.000000	320	11	-33.0	P
0.000000	0.000000	320	12	-33.0	P

TRAFFIC SLOT: 4
TRAFFIC CARRIER: 5
PACKET TYPE: P32+Z

BER:	FER:	kBit:	intf.car:	lev in dBm:	
0.000000	0.000000	320	-3	-33.0	P
0.000000	0.000000	320	-2	-33.0	P
0.000000	0.000000	320	-1	-33.0	P
0.000003	0.000000	326	0	-33.0	P
0.000000	0.000000	320	1	-33.0	P
0.000000	0.000000	320	2	-33.0	P
0.000009	0.000000	332	3	-39.0	P
0.000014	0.000000	351	4	-60.0	P
0.000626	0.000000	1233	5	-84.0	P
0.000000	0.000000	320	6	-60.0	P
0.000000	0.000000	320	7	-39.0	P
0.000003	0.000000	326	8	-33.0	P
0.000000	0.000000	320	9	-33.0	P
0.000003	0.000000	326	10	-33.0	P
0.000003	0.000000	326	11	-33.0	P
0.000000	0.000000	320	12	-33.0	P

TRAFFIC SLOT: 6
TRAFFIC CARRIER: 9
PACKET TYPE: P32+Z

BER:	FER:	kBit:	intf.car:	lev in dBm:	
0.000000	0.000000	320	-3	-33.0	P
0.000104	0.000000	761	-2	-33.0	P
0.000000	0.000000	320	-1	-33.0	P
0.000000	0.000000	320	0	-33.0	P
0.000618	0.000000	1594	1	-33.0	P
0.000003	0.000000	326	2	-33.0	P
0.000000	0.000000	320	3	-33.0	P
0.000000	0.000000	320	4	-33.0	P
0.000000	0.000000	320	5	-33.0	P
0.000000	0.000000	320	6	-33.0	P
0.000003	0.000000	326	7	-39.0	P
0.000028	0.000000	388	8	-60.0	P
0.000432	0.000000	1086	9	-84.0	P
0.000000	0.000000	320	10	-60.0	P
0.000000	0.000000	320	11	-39.0	P
0.000003	0.000000	326	12	-33.0	P

2.3.16 TC 16 Radio receiver blocking, case 1 (4.5.7.4)

The BER shall be ≤ 10^{-3} .

Measurement uncertainty: + 0.81 dB / -0.96 dB conducted
Measurement uncertainty: + 3.00 dB / -3.00 dB radiated

TRAFFIC SLOT: 8
TRAFFIC CARRIER: 5
PACKET TYPE: P32+Z
transmitter level: -80.00 dBm
additional CW interferer level: 0.00 dB

```
start frequency:      25.00 MHz
stop  frequency:     100.00 MHz
step  frequency:       1.00 MHz
```

320 kBit to evaluate P

TRAFFIC SLOT: 0
TRAFFIC CARRIER: 5
PACKET TYPE: P32+Z
transmitter level: -80.00 dBm
additional CW interferer level: 0.00 dB

```
start frequency:     101.00 MHz
stop  frequency:    2900.00 MHz
step  frequency:       1.00 MHz
```

320 kBit to evaluate P

TRAFFIC SLOT: 4
TRAFFIC CARRIER: 5
PACKET TYPE: P32+Z
transmitter level: -80.00 dBm
additional CW interferer level: 0.00 dB

```
start frequency:    2901.00 MHz
stop  frequency:   12750.00 MHz
step  frequency:       1.00 MHz
```

320 kBit to evaluate P

2.3.17 TC 17 Radio receiver blocking, case 2 (4.5.7.5)

The BER shall be ≤ 10^{-3} .
Measurement uncertainty: + 0.63 dB / -0.71 dB

TRAFFIC SLOT:	2			
TRAFFIC CARRIER:	0			
PACKET TYPE:	P32+Z			
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit	P
TRAFFIC SLOT:	4			
TRAFFIC CARRIER:	5			
PACKET TYPE:	P32+Z			
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit	P
TRAFFIC SLOT:	6			
TRAFFIC CARRIER:	9			
PACKET TYPE:	P32+Z			
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit	P

2.3.18 TC 18 Receiver intermodulation performance (4.5.7.6)

The BER shall be ≤ 10^{-3} .
Measurement uncertainty: + 0.40 dB / -0.43 dB

TRAFFIC SLOT:	8			
TRAFFIC CARRIER:	0			
PACKET TYPE:	P32+Z			
M: 0 A: 2 B: 4				
BER: 0.000000	FER: 0.0000	eval.data:	320 kbit	P
M: 0 A: -2 B: -4				
BER: 0.000104	FER: 0.0000	eval.data:	731 kbit	P
TRAFFIC SLOT:	10			
TRAFFIC CARRIER:	5			
PACKET TYPE:	P32+Z			
M: 5 A: 7 B: 9				
BER: 0.000000	FER: 0.0000	eval.data:	320 kbit	P
M: 5 A: 3 B: 1				
BER: 0.000009	FER: 0.0000	eval.data:	338 kbit	P
TRAFFIC SLOT:	0			
TRAFFIC CARRIER:	9			
PACKET TYPE:	P32+Z			
M: 9 A: 11 B: 13				
BER: 0.000000	FER: 0.0000	eval.data:	320 kbit	P
M: 9 A: 7 B: 5				
BER: 0.000014	FER: 0.0000	eval.data:	351 kbit	P

2.3.19 TC 19 Spurious emissions when the radio endpoint has no allocated transmit ch. (4.5.7.7)

only recommended for portable parts

2.3.20 TC 20 Synchronisation port (4.5.8)

No test

2.3.21 TC 21 Equipment identity verification (4.5.9)

Statement of the applicant“

2.3.22 TC 22 Efficient use of radio spectrum (4.5.10)

Statement of the applicant“

2.3.23 TC23 WRS (4.5.11)

No test

2.3.24 TC24 PP to PP communication (4.5.12)

No test

2.3.25 TC25 Direct communication (4.5.13)

No test

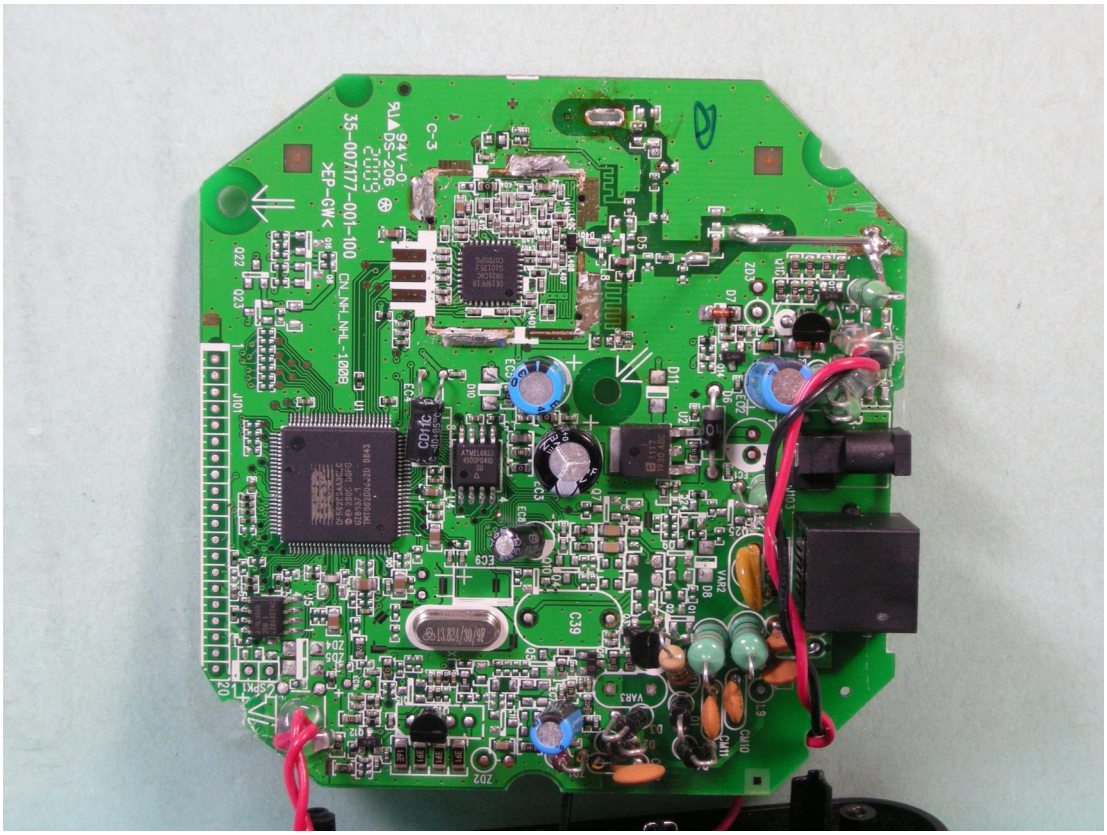
2.3.26 TC26 Higher level modulation (4.5.14)

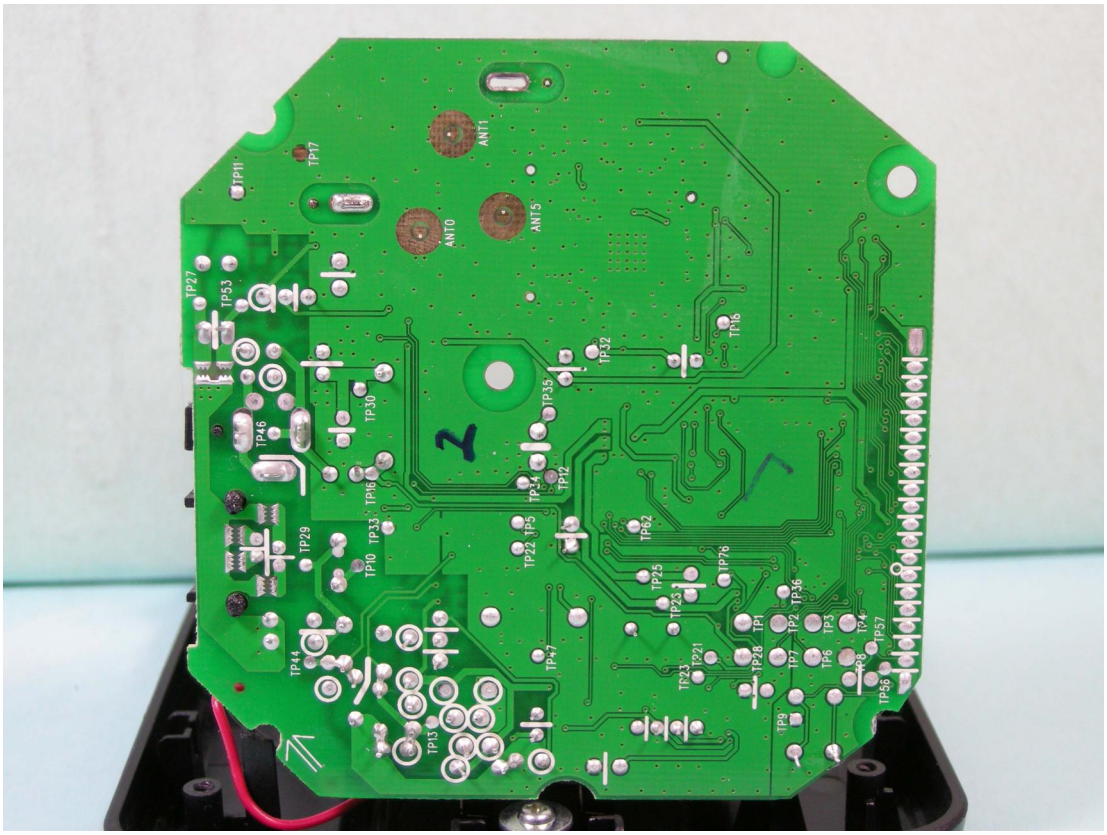
No test

4 Appendix Photo of the Test Candidate (exterior)

Photo of the Test Candidate (exterior)

Photo of the Test Candidate (interior)





MANUFACTURER DECLARATION

VTech Telecommunication LTD
23/F,Tai Ping Industrial Centre Block 1
57 Ting Kok Road, Tai Po, Hong Kong

(Name / Address)

declare for the Digital Enhanced Cordless Telecommunications (DECT) telephone system specified as

C1600

(Model Number)

For the portable radio termination (PT):

The first PT transmission on the newly selected channel is made in accordance with the scan sequence of the addressed RFP.
To continue transmitting on the newly selected physical channel the PT transmissions within 2 frames of the first PT transmission.

For the fixed radio termination (FT):

The RFP do not transmit on more than 2 physical channels for which complementary physical channels do not exist.
A complementary physical channel is a physical channel between the same two radio endpoints which occurs 5 ms before or after the physical channel to which is complementary.
When an FT is addressing a specific PT then the first FT transmission is made in accordance with the scan sequence of the addressed PT receiver.
To continue transmitting on the selected physical channel the FT receives and indication that the PT is receiving the FT transmissions within 2 frames of the first FT transmission.

For the channel release:

A REP cease transmission on all physical channels if it has not received a valid indication of the other radio endpoint's identity within 10 seconds of the receipt of the last indication.
A REP which transmits on both the physical channel and complementary physical channel cease to transmit on the channels if either:

- ☐ The receiving endpoint indicate to the transmitting endpoint that transmission cease on both these physical channels; or
- ☐ The transmitting FT or PT is no longer attempting to receive at least one physical channel from the FT or PT to which it is transmitting.

In General:

No more than two physical channels based on the half slot format are sent within the same frame to the same REP;
The EUT is capable of communicating on all 10 DECT RF channels

30th Jul 2009

(Date)

Michael Tsui

(Printed full name)

VTECH TELECOMMUNICATIONS LTD. 14

(Authorized signature and company chop)

MANUFACTURER DECLARATION

VTech Telecommunication LTD
23/F,Tai Ping Industrial Centre Block 1
57 Ting Kok Road, Tai Po, Hong Kong

(Name / Address)

declares for the Digital Enhanced Cordless Telecommunications (DECT) telephone system specified as

C1600

(Model Number)

The Portable Part (PP):

It is not possible for the user to alter the IPEI using any normally accessible procedure. We supply, in addition to the equipment, sufficient means in the equipment with instructions in the documentation to permit validation of the Equipment Manufacturer's Code and verification of the existence of the Portable equipment Serial Number (PSN) code in the equipment.

The Fixed Part (FP):

DECT FPs which do not transmit the TA escape message transmits the NT message as defined in EN 300 175-3 [3] at least once every 10 seconds on all active physical channels;
These NT identity messages are transmitted with the appropriate A-field header code as defined in EN 300 175-3[3] and the NT message contains an ETSI distributed code as defined in EN 300 175-6[6].

30th Jul 2009

(Date)

Michael Tsui

(Printed full Name)

(Authorized Signature & Company Chop)